

REMARKS

Claims 1, 3-6 and 8 remain pending in the application. Claims 1, 6 and 8 are amended, and claims 2, 7 and 9-11 are cancelled. Reconsideration of the rejection and allowance of the pending application in view of the following remarks are respectfully requested.

In the Office Action, the Examiner objected to the drawings, asserting that Fig. 4 should be designated by a legend such as -- Prior Art --. Applicant has amended Fig. 4 to include a -- Prior Art -- legend, and thus, requests that the Examiner withdraw the objection.

The Examiner also objected to the Abstract because it included more than 150 words. Applicant has shortened the Abstract to less than 150 words, and thus, requests that the Examiner withdraw the objection.

In the Office Action, the Examiner objected to the title, asserting that it was not descriptive. Applicant has changed the title to "APPARATUS AND METHOD FOR MEASURING AN OPTICAL CHARACTERISTIC WITHOUT ADVERSE EFFECTS OF A DEVIATION OF A POLARIZED COMPONENT". Applicant respectfully submits that the new title is sufficiently descriptive, and requests that the Examiner withdraw the objection.

The Examiner also objected to the "Disclosure of the Invention" section of the specification because it included references to the claim numbers. Applicant has amended the "Disclosure of the Invention" section to remove the references to claim numbers. Accordingly, Applicant requests that the Examiner withdraw the objection.

The Examiner also objected to claim 2 due to a typographical error. Applicant has amended claim 2 to correct the error, and requests that the Examiner withdraw the objection.

In the Office Action, the Examiner rejected claim 2 under 35 U.S.C. §112, 2<sup>nd</sup> paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter regarded as the invention. Specifically, the Examiner asserted that the phrase “being excessively large of excessively small” is relative terminology which renders the claim indefinite.

Applicant has cancelled claim 2, and has incorporated similar subject matter into claim 1. Claim 1, as currently amended, now recites that “the optical characteristic measurer measures the optical characteristic of the device under test based upon the measured result by the second measurer, if there is a deviation between a p-polarization component of the amplitude equivalent value of the incident light and an s-polarization component of the amplitude equivalent value of the incident light”. Applicant respectfully submits that this recitation satisfies the definiteness requirement of 35 U.S.C. §112, 2<sup>nd</sup> paragraph.

In the Office Action, the Examiner rejected claims 1, 6, 3, 4 and 8 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, 4 and 11, respectively, of U.S. Patent No. 7,006,207, and over claims 1-4 and 13, respectively, of U.S. Patent No. 7,126,679 in view of Ono (U.S. Patent No. 5,473,457).

Applicant’s claim 1, as currently amended, recites an optical characteristic measuring instrument that measures an optical characteristic of a device under test and includes, inter alia, a light generator that generates incident light, an optical modulator

that applies intensity modulation to the incident light, a light inputter that makes the incident light which has undergone the intensity modulation incident on the device under test, a first measurer that measures a phase shift equivalent value and an amplitude equivalent value of the incident light, a second measurer that measures a phase shift equivalent value of the incident light, and an optical characteristic measurer. The optical characteristic measurer measures the optical characteristic of the device under test based upon the measured result by the second measurer, if there is a deviation between a p-polarization component of the amplitude equivalent value of the incident light and an s-polarization component of the amplitude equivalent value of the incident light. The measured result by the second measurer is not changed in accordance with the measured result by said first measurer.

Applicant submits that the newly added feature “the optical characteristic measurer measures the optical characteristic of the device under test based upon the measured result by the second measurer, if there is a deviation between a p-polarization component of the amplitude equivalent value of the incident light and an s-polarization component of the amplitude equivalent value of the incident light” is not present in any of the claims of U.S. Patent No. 7,006,207 or U.S. Patent No. 7,126,679. Applicant submits that Ono also fails to disclose or suggest this feature.

For at least these reasons, Applicant respectfully submits that the invention recited in Applicant’s claim 1 is patentably distinct from the claims of U.S. Patent Nos. 7,006,207 and 7,126,679, and requests that the Examiner withdraw the double patenting rejection of claim 1, as well as the rejection of claims 3 and 4, which depend therefrom.

Applicant has amended claims 6 and 8 in a manner similar to claim 1, and thus, requests that the Examiner withdraw the rejection of these claims for similar reasons.

In the Office Action, the Examiner rejected claims 1-11 under 35 U.S.C. §103(a) as being unpatentable over Ozeki et al. (U.S. Patent No. 5,717,489) in view of Ono (U.S. Patent No. 5,473,457).

Ozeki et al. discloses a polarization mode dispersion measuring apparatus which includes a polarization controller that outputs light to an optical fiber 104, a polarized beam splitter 105 which receives light from the optical fiber 104, and a network analyzer 107 that determines a polarization angle and phase change values.

In the Office Action, the Examiner acknowledges that Ozeki's polarization mode dispersion measuring apparatus does not include a second measurer that measures a phase shift equivalent value based upon the light emitted from the optical fiber 104, or an optical characteristic measurer that measures an optical characteristic of the optical fiber 104 based upon measured results of such second measurer. However, the Examiner asserts that such features are taught by Ono. Applicant respectfully disagrees.

Ono discloses an apparatus for compensating a dispersion of polarization. The apparatus includes an optical receiver 12, a polarization separating device 13, dual PIN photodiodes 14 and a control unit 19. See, e.g., Fig. 1 of Ono.

In the Office Action, the Examiner asserts that Ono's dual PIN photodiodes 14 read on Applicant's first measurer, Ono's optical receiver 12 reads on Applicant's second measurer, and Ono's control unit 19 reads on Applicant's optical characteristic measurer. Applicant respectfully disagrees.

Applicant respectfully submits that Ono fails to disclose or suggest that the dual PIN photodiodes 14 measure a phase shift equivalent value or an amplitude equivalent value of the light incident on the optical fiber 8. Rather, Applicant submits that Ono's dual PIN photodiodes 14 merely convert the signal light output by the polarization separating device 13 to electric signals. See, e.g., col. 3, lines 32-54 of Ono.

Applicant also submits that Ono fails to disclose or suggest that the optical receiver 12 measures a phase shift equivalent value of the incident light. Instead, Ono merely discloses that the optical receiver 12 detects data 4 which modulates the signal light 2, from the received signal light. See, e.g., col. 3, lines 32-54 of Ono.

Applicant further submits that Ono fails to disclose or suggest that the control unit 19 measures an optical characteristic of the optical fiber 8 based upon results measured by the optical receiver 12. Rather, Ono merely discloses that the control unit 19 monitors a detected intensity, and controls a polarization controller 9. See, e.g., col. 4, lines 30-42 of Ono. As shown in Fig. 1, the optical receiver 12 does not output a signal to the control unit 19.

Accordingly, Ono also fails to disclose or suggest that the control unit 19 measures the optical characteristic of the optical fiber 8 based upon a result measured by the optical receiver 12 if there is a deviation between a p-polarization component of an amplitude equivalent value of the incident light and an s-polarization component of the amplitude equivalent value of the incident light.

Furthermore, contrary to Applicant's amended claim 1, an output of Ono's optical receiver 12 changes in accordance with an output of Ono's dual PIN photodiodes 14, via the control unit 19 controlling the polarization controller 9, as shown in Fig. 1.

For at least these reasons, Applicant respectfully submits that the combined teachings of Ozeki et al. and Ono fail to disclose or suggest an optical characteristic measuring instrument which includes a first measurer that measures a phase shift equivalent value and an amplitude equivalent value of incident light, a second measurer that measures a phase shift equivalent value of the incident light, and an optical characteristic measurer that measures an optical characteristic of a device under test based upon the measured result by the second measurer, if there is a deviation between a p-polarization component of the amplitude equivalent value of the incident light and an s-polarization component of the amplitude equivalent value of the incident light, where the measured result by the second measurer is not changed in accordance with the measured result by the first measurer, as recited in Applicant's amended claim 1.

Similarly, Applicant submits that the combined teachings of Ozeki et al. and Ono also fail to disclose or suggest an optical characteristic measuring method which includes measuring a phase shift equivalent value and an amplitude equivalent value of incident light based upon p-polarized light and s-polarized light, measuring a phase shift equivalent value of the incident light based upon light emitted from a device under test, measuring an optical characteristic of the device under test based upon the measured phase shift equivalent value and amplitude equivalent value of the incident light based upon the p-polarized light and s-polarized light, and measuring the optical characteristic of the device under test based upon the measured phase shift equivalent value of the incident light based upon the light emitted from the device under test, if there is a deviation between a p-polarization component of the amplitude equivalent value of the incident light and an s-polarization component of the amplitude equivalent value of the

incident light, where the result of measuring the phase shift equivalent value of the incident light based upon the light emitted from the device under test is not changed in accordance with the result of measuring the phase shift equivalent value and the amplitude equivalent value of the incident light based upon the p-polarized light and s-polarized light, as recited in Applicant's claim 6, or a computer-readable storing a program for performing such method, as recited in Applicant's claim 8.

Thus, Applicant submits that the inventions recited in Applicant's independent claims 1, 6 and 8 are not obvious in view of Ozeki et al. and Ono, and requests that the Examiner withdraw the rejection under 35 U.S.C. §103(a) and allow these claims.

Applicant submits that claims 3-5 are also in condition for allowance, in view of their dependency from claim 1.

Based on the above, it is respectfully submitted that this application is in condition for allowance, and a Notice of Allowance is respectfully requested.

SUMMARY AND CONCLUSION

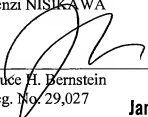
Reconsideration of the outstanding Office Action, and allowance of the present application and all of the claims therein are respectfully requested and believed to be appropriate. Applicant has made a sincere effort to place the present invention in condition for allowance and believes that he has done so.

Any amendments to the claims which have been made in this amendment, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Should an extension of time be necessary to maintain the pendency of this application, including any extensions of time required to place the application in condition for allowance by an Examiner's Amendment, the Commissioner is hereby authorized to charge any additional fee to Deposit Account No. 19-0089.

Should the Examiner have any questions or comments regarding this response, or the present application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,  
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